

REMARKS

Claims 47 and 62-68 are canceled herein. Claims 24-33 and 56-61 are pending.

The Applicants respectfully request that the Examiner reconsider earlier rejections in light of the following amendments and remarks. No new issues are raised nor is further search required as a result of the changes and remarks made herein. Entry of the Amendment is respectfully requested.

Claims 24-29, 31, 47 and 56-68 over Matsuda in view of Olkin and Renouard

In the Office Action, claims 24-29, 31, 47 and 56-68 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over U.S. Patent Application Publication No. 2002/0133573 to Matsuda et al. ("Matsuda") in view of U.S. Patent No. 6,310,892 to Olkin ("Olkin"), and in further view of U.S. Patent No. 6,161,123 to Renouard et al. ("Renouard"). The Applicants respectfully traverse the rejection.

Claims 47 and 62-68 are canceled herein, mooted the rejection in that regard.

Claims 24-29, 31 and 56-61 recite, *inter alia*, discarding a duplicate message, in response to detection of the **duplicate message with a transport layer** of a modified User Datagram Protocol (**UDP**) transport protocol.

The Examiner relies on Olkin to allegedly teach a connectionless protocol that can detect message duplication at col. 6, lines 11-26.

Olkin teaches:

Although the connectionless protocol of the present invention does not require opening and closing a connection, the destination node initializes local state information upon receipt of the first segment of the message. The local state information allows the destination node to track subsequent segments of the message, even if segments arrive out of order, to re-construct that message. However, the local state information is discarded after has been successfully received and reconstructed. In one embodiment, the local state information is retained for a short period of time after the message is received to prevent the receipt of duplicate segments as being interpreted as part of a new message. However, the amount of time that the local state information is retained by the destination node is completely independent of the action that the source

node takes following the completion of the sending of the message. (see Olkin, col. 6, lines 11-26)

For the embodiment of the present invention that implements a modified TCP/IP protocol, the message protocol retains all other characteristics of the TCP/IP protocol, such as sliding windows, retransmission with back-off, and recovery from network errors. For example, network errors may include corruption, lost data, duplicated data, or data delivered out of sequence. Moreover, the message protocol of the present invention guarantees that separate discrete messages transmitted between a source node and a destination node arrive in the original order transmitted. Although a desirable attribute, preserving the ordering of discrete messages is not necessarily guaranteed by a connectionless protocol. (emphasis added; see Olkin, col. 3, line 61-col. 4, line 5)

Thus, Olkin relies on a modified TCP/IP transport protocol. TCP/IP utilizes high overhead for packet transport. UDP was developed to overcome such deficiencies for communication networks having limited bandwidths, such as wireless networks. However, Applicants have appreciated that in some applications UDP pushes overhead onto an application to perform overhead functions, decreasing application performance while creating burdens for application developers. To overcome such deficiencies, Applicants' invention introduces a modified User Datagram Protocol (UDP) transport protocol that includes a transport layer that detects a duplicate message. Thus, Applicants' invention retains the advantages of UDP, but provides the advantages of removing handling of a duplicate message from an application, with a **duplicate message** being detected with a **transport layer** of a modified User Datagram Protocol (**UDP**) transport protocol, as required by claims 24-29, 31 and 56-61.

Matsuda relies on TCP/IP. (see Matsuda, paragraph [0034]).

Renouard teaches a UDP+ protocol. (see Abstract) The UDP+ protocol provides "persistent session" functionality to UDP, with a connection being reestablished to complete a data transfer after a termination. (see Renouard, Abstract)

Renouard's UDP+ protocol adds for "persistent session" functionality to UDP. Renouard fails to teach a modified UDP transport protocol transport layer that detects a duplication message, as claimed.

Matsuda theoretically modified by Olkin and Renouard would at best result in Matsuda using a modified TCP/IP protocol (Olkin) and a UDP+ protocol for "persistent sessions" (Renouard). Matsuda, Olkin, and Renouard, either alone or in combination, fail to disclose, teach, or suggest discarding a duplicate message, in response to detection of the **duplicate message with a transport layer of a modified User Datagram Protocol (UDP) transport protocol**, as recited by claims 24-29, 31 and 56-61.

Accordingly, for at least all the above reasons, claims 24-29, 31 and 56-61 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Claims 30, 32 and 33 over Matsuda in view of Olkin, Renouard and Bell

In the Office Action, claims 30, 32 and 33 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Matsuda in view of Olkin and Renouard, and further in view of U.S. Patent No. 6,044,081 to Bell et al. ("Bell"). The Applicants respectfully traverse the rejection.

Claims 30, 32 and 33 are dependent on claim 24, and are allowable for at least the same reasons as claim 24.

Claims 30, 32 and 33 recite, *inter alia*, discarding a duplicate message, in response to detection of the **duplicate message with a transport layer of a modified User Datagram Protocol (UDP) transport protocol**. As discussed above, Matsuda, Olkin and Renouard, either alone or in combination, fail to disclose, teach or suggest such features.

Bell relies on an **un-modified** version of UDP. (see col. 12, lines 4-11) Thus, Matsuda, Olkin, Renouard and Bell, either alone or in combination, fail to disclose, teach or suggest discarding a duplicate message, in response to detection of the **duplicate message with a transport layer of a modified User Datagram Protocol (UDP) transport protocol**, as recited by claims 30, 32 and 33.

Accordingly, for at least all the above reasons, claims 30, 32 and 33 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,



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